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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,030	09/19/2001	Kimiyuki Ito	44084-498	9406

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EXAMINER
RODEE, CHRISTOPHER D

ART UNIT	PAPER NUMBER
1756	8

DATE MAILED: 06/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/955,030	ITO ET AL.	
	Examiner	Art Unit	
	Christopher D RoDee	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 April 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-21 and 31-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-21 and 31-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

The specification is objected to because the symbol denoting the type of phthalocyanine in Example 1, p. 41, is confusing.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 13-21 and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rokutanzono *et al.* in US Patent 5,008,172 in view of Bergmann *et al.* in US Patent 5,571,456.

Claims 34-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rokutanzono *et al.* in US Patent 5,008,172 in view of Bergmann *et al.* in US Patent 5,571,456 as applied to claim13-21 and 31-33 above, and further in view of *Organic Photoreceptors for Imaging Systems*, to Borsenberger, pp. 25-35 & 289-296.

These rejections were presented in the last Office action over the same claims. Amendments have been made to claims 20 and 34 to bring these claims into compliance with section 112, first and second paragraph. The prior description of the art and the reasons for holding of obviousness remain applicable to these claims for the reasons of record.

Applicants traverse the rejections because, although Rokutanzono does disclose a photosensitive member having a photosensitive member and an exterior layer containing tin oxide doped with antimony, Rokutanzono does not disclose the exterior surface layer containing tantalum doped tin oxide and does not disclose the results of the present invention. Applicants

also state that the supporting Bergmann reference discloses conductive tantalum-doped tin oxide powder, but does not disclose the photosensitive member having an exterior surface layer containing titanium tin oxide. Bergmann also does not disclose the results of the instant invention. Applicants state that the fact that Bergmann discloses the conductive Ta-doped tin oxide is environmentally acceptable does not provide sufficient basis for the combination rejection because Bergmann does not suggest the modification of Rokutanzono's photosensitive member proposed. Applicants rely on various court decisions on response page 5 that state it is necessary for the artisan to be placed back in time to see if the modification would have been made without applicants' disclosure. The fact that the modification could be made does not necessarily motivate the obviousness of making the modification proposed. The prior art as a whole must be relied upon and this art does not suggest the modification to Rokutanzono suggested by the Examiner.

Obviousness requires a factual inquiry following the guidance set forth by the US Supreme Court in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). Following *Graham* **v.** *John Deere Co.*, the Examiner has determined the scope and contents of the prior art and ascertained the differences between the prior art and the claims as discussed in the prior Office action. The primary reference discloses each of the features of the claimed invention such as independent claims 13 and 34 with the exception of the tantalum-doped tin oxide powder in an exterior layer of the member (Sb-doped tin oxide is disclosed). This Ta-doped tin oxide powder is disclosed for electroconductive layers by the supporting Bergmann reference.

For emphasis, the Examiner notes Rokutanzono's discussion that metal and metal oxides have been added to the prior art photosensitive member surface layers (col. 2, l. 4-8) as resistivity controlling agents. These particles would be understood by the artisan as conductive

because they serve to lower the resistivity of the high resistivity of conventional surface layers (col. 1, l. 58-63). These agents are not totally effective, however, because they absorb light (col. 2, l. 9-13) causing imaging problems. Smaller sized metal oxide particles are disclosed as one alternative in the art to overcome this problem, but image flow occurs. Treatment of the conductive metal oxides is effective to reduce the image flow problem, particularly under high humidity environments (col. 2, l. 27-31). Rokutanzono discloses treating Sb-doped tin oxides to give the proper resistivity to the surface layer, while obtaining improved imaging under adverse environmental conditions.

Bergmann discloses transparent coatings prepared from environmentally acceptable, conductive, tantalum-doped tin oxide powder. The powder has a size of 0.05 to 15 μm (cols. 3-4). This powder is processed into a layer with a binder resin. Useful doping amounts are 0.5 % tantalum as seen in Example 1, 2 % tantalum in Example 2, and 8.6 % tantalum in Example 3, for each tin oxide. Antimony and tantalum doped tin oxides are disclosed as conductive in the reference (col. 1, l. 41-45; Example 15).

The combination of references which renders the claims obvious is motivated by the references themselves noting the desire to use less toxic conductive tantalum-doped tin oxides in more environmentally acceptable aqueous dispersions to form conductive layers in Bergmann. Further, Bergmann notes that antimony compounds (which are used by Rokutanzono) tend to discolor (i.e., impair transparency) thus motivating the use of Bergmann's oxides in Rokutanzono's exterior layer. Light absorption is a specific concern in Rokutanzono and thus the artisan would look to those references that avoid an effect on light absorption (e.g., discoloration). There are clearly common concerns in the applied references that motivate the proposed modifications. Additionally, the level of skill is such that the artisan in the electrophotographic arts would have found it obvious use the electroconductive powders of

Bergmann in an electroconductive exterior layer in Rokutanzono to reduce the presence of toxic, environmentally hazardous materials and avoid discoloration.

It is not necessary for the art to recognize the same utility and advantage recognized by applicant in order to establish *prima facie* obviousness. Rather the art must reasonably suggest the claimed photosensitive members and specifically suggest the claimed tantalum-doped tin oxide powder in an exterior electroconductive layer of a photosensitive member. See *In re Dillon*, 16 USPQ2d 1897. The art makes such a suggestion for the reasons of reduced presence of toxic, environmentally hazardous materials and avoidance of discoloration. The Examiner has met the requisite burden of showing obviousness within the meaning of § 103.

Although Rokutanzono does not describe tantalum-doped tin oxide, the reference does disclose the use of antimony doped tin oxide as an effective metal oxide for electrical-conductivity. The supporting reference teaches that conductivity, transparency and health and environmental benefits can be obtained by doping a tin oxide with tantalum. Although this reference does not disclose using the tantalum doped tin oxide in a photosensitive member's exterior layer, the reference clearly teaches that conductivity is obtained from these particles. Conductivity is a requisite feature of the tin oxide in each reference and thus Bergmann is relevant prior art. The artisan would look to Bergmann from Rokutanzono in order to obtain the health and environmental benefits disclosed while expecting acceptable conductivity and transparency.

Hindsight was not employed in the instant rejection. The art motivates the combination of references in order to obtain environmentally acceptable composition as compared to metal-containing antimony-doped powders. The combination is further motivated because a layer of Bergmann's powder can be formed from an aqueous dispersion which is more desirable than

less environmentally acceptable organic solvents while still providing a transparent layer (see Rokutanzono col. 2, l. 9-13).

The evidence in the specification has been considered but is not persuasive to show an unexpected result for the claimed invention. Initially, none of the examples (summarized in Table 2, p. 44) disclose a treated-tin oxide as used in Rokutanzono's surface layer. Further, Example 1 and Reference Example 1 appear to be the same because each contains Ta-doped tin oxide and are identical in all respects. However, the results for these two examples are different. Reference Example 1 has results substantially different from Example 1.

The evidence is also not persuasive because there is no indication what the symbol "±" denotes in the discussion of "Image Evaluation" and "Layer Shaving" on page 44. Should this symbol have the same meaning as "0", the evidence would still not be persuasive because the difference between the presumed meaning of "0" and the meaning of "X" for "Layer "Shaving" can be nearly the same value. For example, a shaving amount of 1 micron would receive the value "X" while a shaving amount of just less than 1 micron (e.g., 0.99 microns) would receive a value of "0". Such a difference would not be considered to be unexpected because the values are nearly identical, even though the receive different denotations. The manner of determining the amount of shaving is not disclosed by the declaration and, thus, it is unclear if the test is statistically significant. It is also unclear that the how significant the difference is between "0" and "X" for "Image Evaluation". There is no indication in the evidence that a light density fog or unsharpness is significant to the artisan.

Because the comparison is not with the closest prior art and the significance of the data is not apparent, the evidence does not obviate the rejection.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher D RoDee whose telephone number is 703 308-2465. The examiner can normally be reached on most weekdays from 6 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703 308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0661.

cdr
May 31, 2002

CHRISTOPHER RODEE
PRIMARY EXAMINER